

APPLICATION FOR CERTIFICATE OF AUTHORITY

FILED  
In the Office of the  
Secretary of State of Texas

FEB 23 1981

Pursuant to the provisions of Article 8.05 of the Texas Business Corporation Act, the undersigned corporation hereby applies for a Certificate of Authority to transact business in Texas:

1. The name of the corporation is WELLS FARGO CREDIT CORPORATION
2. If the name of the corporation does not contain the word "corporation," "company," "incorporated," or "limited" (or an abbreviation thereof), then the name of the corporation with the word or abbreviation there- it elects to add thereto for use in Texas is: (Or if the corporate name is not available in Texas, then specify the assumed name which the corpora- tion elects to use in Texas and attach Assumed Name Certificate.)

3. It is incorporated under the laws of California
4. The date of its incorporation is February 17, 1978 and the period of its duration is perpetual. (State "Perpetual" or term of years).
5. The address of its principal office in the state or country under the laws of which it is incorporated is

700 S. Flower St., Suite 1010, Los Angeles, California 90017

6. The address of its proposed registered office in Texas is (a P. O. Box is not sufficient) Republic National Bank Building,

c/o C T CORPORATION SYSTEM, Dallas, Texas 75201

and the name of its proposed registered agent in Texas at such address is

C T CORPORATION SYSTEM

7. The purpose or purposes of the corporation which it proposes to pursue in the transaction of business in Texas are:

Consumer and commercial lending, auto and recreational vehicle leasing, purchase of retail installment contracts, all related lawful activities.

8. It is authorized to pursue such purpose or purposes in the state or country under the laws of which it is incorporated.

9. The names and respective addresses of its directors are:

NAME

ADDRESS

SEE ATTACHED LIST

#88-010

6 SEPTEMBER 1988

MEMORANDUM TO: ALL RMD'S AND ALL DISTRICT OFFICES -  
PASS TO DEC CHAIRMEN PLEASE

INFO COPY:

T. FLEETWOOD MEFFORD, DAS FOR DOMESTIC OPERATIONS

FROM:

A.B. "BECK" KISSELBURGH, CHAIRMAN, SAN DIEGO DEC

SUBJECT:

DOC-OIG STUDY TO DETERMINE ALTERNATIVE METHODS OF  
ACHIEVING THE MISSION OF THE US&FCS DOMESTIC FIELD  
OPERATIONS

REFERENCES:

- A) DASDO #88-026 DATED JULY 8, 1988.
- B) STAFF REPORT OF THE SUBCOMMITTEE ON INTERNATIONAL  
OPERATIONS TITLED "OVERSIGHT OF THE US&FCS" DATED  
6/19/88.

A. SAN DIEGO WAS VISITED IN EARLY AUGUST BY THIS TEAM AND THE  
COLLECTIVE ASSESSMENT OF THOSE "INTERVIEWED" IS A CONTINUING DEEP  
CONCERN OVER THE DISTINCT POSSIBILITIES THAT INSTEAD OF DETERMINING  
WAYS TO INCREASE DOMESTIC OFFICE ASSETS AND CAPABILITIES AN ITA/DOC  
POSITION MAY WELL EVOLVE OF INTERGRATING MORE FUNCTIONS WITH STATE  
OFFICES OR WITH OTHER ORGANIZATIONS UP TO AND INCLUDING PHASING OUT  
CERTAIN DISTRICT OFFICES.

IT IS OUR PERCEPTION THAT THE TEAM RECOMMENDATION TO THE SECRETARY  
DUE BY SEPTEMBER 15, 1988 MAY WELL BE HEADING THAT WAY.

THE SAN DIEGO DEC HAS SENT A LETTER TO THE SECRETARY STRONGLY URGING  
THAT THE INTERNATIONAL TRADE ADMINISTRATION DISTRICT OFFICES BE  
STRENGTHENED, NOT DILUTED OR ABOLISHED.

WE SURELY TRUST THAT ALL DECS WILL IMMEDIATELY COMMUNICATE THEIR  
POSITION TO THE SECRETARY TO LEND HIM SUPPORT IN HIS DECISION MAKING.  
BE AWARE. TIME IS OF THE ESSENCE.

B. CONGRESSMAN DANIEL A. MICA'S SUBCOMMITTEE ON INTERNATIONAL  
OPERATIONS HAS COMPLETED THEIR STAFF REPORT TITLED "OVERSIGHT OF THE  
US&FCS" DATED 6/19/88. THIS REPORT HITS THE "NAIL-ON-THE-HEAD". IF  
YOU NEED A COPY CONTACT THE SAN DIEGO DISTRICT OFFICE AT FTS  
895-5395, COMMERCIAL 619-557-5395.

#88-011

12 SEPTEMBER 1988

MEMORANDUM TO: . ALL RMD'S AND ALL DISTRICT OFFICES -  
PASS TO DEC CHAIRMEN PLEASE

INFO COPY: T. FLEETWOOD MEFFORD, DAS FOR DOMESTIC OPERATIONS

FROM: RICHARD A. POWELL, DISTRICT DIRECTOR/  
SAN DIEGO DEC EXECUTIVE SECRETARY

SUBJECT: DOC-OIG STUDY TO DETERMINE ALTERNATIVE METHODS OF  
ACHIEVING THE MISSION OF THE US&FCS DOMESTIC FIELD  
OPERATIONS

REFERENCES: A) DASDO #88-026 DATED JULY 8, 1988  
B) STAFF REPORT OF THE SUBCOMMITTEE ON INTERNATIONAL  
OPERATIONS TITLED, "OVERSIGHT OF THE US&FCS"  
DATED 6/19/88  
C) SAN DIEGO DEC CHAIRMAN "BECK" KISSELBURGH WOMAIL  
#88-010

THERE SEEMS TO BE A PERCEPTION FROM SOME RECIPIENTS OF REFERENCE (C)  
THAT SAN DIEGO DEC'S LETTER TO THE SECRETARY IS NEGATIVE OR  
CRITICAL. THAT CERTAINLY WAS NOT THE INTENT. THE SAN DIEGO DEC  
STRONGLY SUPPORTS THE SECRETARY AND HIS EFFORTS TO ENHANCE DOC'S  
EXPORT PROMOTION PROGRAMS.

THE SAN DIEGO DEC'S LETTER TO THE SECRETARY (SENT IN THEIR ADVISORY  
CAPACITY TO THE SECRETARY'S OFFICE) FOLLOWS IN ITS ENTIRETY:

QUOTE.

7 SEPTEMBER 1988

THE HONORABLE C. WILLIAM VERITY  
SECRETARY OF COMMERCE  
U.S. DEPARTMENT OF COMMERCE  
WASHINGTON, D.C. 20230

DEAR MR. SECRETARY:

IN OUR ADVISORY CAPACITY TO YOUR OFFICE WE WISH TO EXPRESS OUR  
CONTINUING CONCERN OVER THE POSSIBILITIES THAT THE CURRENT STUDY OF  
ALTERNATIVES TO ACHIEVING THE US&FCS DOMESTIC MISSION MAY LEAD TO  
FURTHER DILUTION OF THE DOMESTIC SYSTEM. IT IS OUR FEELING THAT THE  
DOMESTIC SYSTEM SHOULD BE STRENGTHENED, NOT DILUTED, TO MEET THE  
GREATER DEMAND OF THE INTERNATIONAL TRADING COMMUNITY, PARTICULARLY  
AT THIS TIME WHEN EXPORT OPPORTUNITIES ARE AT A PEAK.

OUR SAN DIEGO DISTRICT OFFICE WAS ONE VISITED BY THE ITA-OIG TEAMS  
AND IT IS THE PERCEPTION OF THOSE INTERVIEWED THAT THE ITA/DOC

POSITION COULD EVOLVE INTO INTEGRATING MORE FUNCTIONS INTO OTHER STATE OR PRIVATE ORGANIZATIONS. AS EXPRESSED PREVIOUSLY WE SHOULD BE DETERMINING WAYS TO INCREASE THE DOMESTIC OFFICE ASSETS AND CAPABILITIES WHERE THE PRIME OBJECTIVE IS SOLELY INTERNATIONAL AND NOT WAYS TO CUT BACK OR TRANSFER RESPONSIBILITIES TO OTHERS.

MR. SECRETARY, WE BELIEVE THAT DANIEL A. MICA'S STAFF REPORT OF THE SUBCOMMITTEE ON INTERNATIONAL OPERATIONS, COMMITTEE ON FOREIGN AFFAIRS - OVERSIGHT OF THE U.S. AND FOREIGN COMMERCIAL SERVICE - JUNE 19, 1988 "HITS THE NAIL ON THE HEAD" AND SHOULD BE REVIEWED FOR ITS RECOMMENDED ACTION. MY PREDECESSOR SAM ARN WAS PRIVILEGED TO TESTIFY BEFORE THIS SUBCOMMITTEE.

WE WOULD LIKE TO HELP FURTHER THIS EFFORT. YOU MOST ASSUREDLY HAVE OUR SUPPORT.

VERY TRULY YOURS,

A.B. "BECK" KISSELBURGH,  
CHAIRMAN, SAN DIEGO DISTRICT EXPORT COUNCIL

END QUOTE.

He has not work for French government.  
In John the aircraft paid for and will be made this week. Confirmed  
State of Missouri. His copy of the 9 being not a continuation of last  
year's program. Leon Rogin was the one causing these problems. Apparently this was  
to Washington and they to report discrepancies.  
For Missouri - from a/c purchase not being done up a matter of US  
8/12/86

① Says to check and see if the Haskins that according to Frank and  
Frank until someone he is dead. (He wanted the program for  
Lincoln) John says that not accident but some at request of John.  
Lincoln of Henry. He also that a person up with pay for work and  
C.C. Wrote full story John will check and have full details for me by  
used nothing on my line  
② La Carter. Wrote group at 71A wrote to James T80. Also went to  
Henry wife 9 years there in interest in recent info given customs. An  
working on it in Henry and La that cost already paid for purchase.  
④ Lippmann to Henry and La that cost already paid for purchase.  
Henry on delivery with approx. 15<sup>th</sup> due to delayed problem. John has  
can have seen the 9 looking for apt. not US domestic.  
③ In John says away from Mexico. He is a friend of Chinese but  
Carter is coming a major involvement to French. How much involvement  
by Graham being that American people like to know  
Henry did as report French approval. Development now going on. Since  
Henry did not state to the... that he assumed they were US Customs officials

14 August 1986

① Had a call from the NY based Customs Agents - Joe King and Dennis Doyle  
212-466-5951. The custom indicated they could advise him on the US  
August he came to NYC. John declined. Also suggested he on the US  
Customs agent in France. John declined. Lippmann reports filed. Henry has  
they have

- 17) REVIEW INFO RE BL RECEIVED  
 18) DETERMINING HOW AND WHERE I AM IN RECEIVING  
 WHERE WALDOFF FLORIDA HOTEL - 12 BIRD MARSHES  
 WHO BERNARD VEI/1107  
 WHEN WEDNESDAY PM  
 How could we give - can discuss anything.  
 CAN I question given re clarification of info. YES  
 DO WE HAVE WRITTEN EVIDENCE OF US OFFER?

- 19) IRANIAN WITH LIST BERNARD WILL HAVE 7 NUMBERS  
 20) IS THERE EVC AVAILABLE? ↑  
 CAN I HAVE COPY ↑  
 21) WHERE DO WE START ON WORK LIST? Prioritize  
 22) CALL ED AND TALK DIRECTLY RE SHELLS. Prioritize  
 DETERMINE FUNDING L905/155/1975  
 23) AN PROGRAM  
 EVC?  
 MANDATES?

- 24) Part of funds?  
 25) U2I - Profit of funds and EVC for Joseph  
 26) ANY INTEREST SMALL EGPT purchases? Continue working  
 27) M AGAZ - ED?  
 28) ENGINES - ANY FURTHER INTEREST? - NO  
 29) SEE PAGE 1.  
 30) SULPHUR PURCHASE WANTS 400 K/MO MIT  
 31) QUOTE TO ED. bagged Quarries 138

NIGERIA - GENERAL ABRAHAM BABANGIDA  
 OCTOBER 1985 Corp.

GALEXY TRADE  
 U.S. PURCHASE CENTER IRAN NYC  
 # 009089985 ANN DAVID FAITH  
 PHONE 820-6849  
 1 B on deposit for purchase

Ask Joseph length of short hand up to long - 1/2 "

1140 10/10/85 11:00

400 London

11/6/85 - Contact

- 1. BOSTON EUC REPAIRS
- 2. BOSTON EUC REPAIRS
- 3. BOSTON EUC REPAIRS
- 4. BOSTON EUC REPAIRS
- 5. BOSTON EUC REPAIRS
- 6. BOSTON EUC REPAIRS
- 7. BOSTON EUC REPAIRS
- 8. BOSTON EUC REPAIRS
- 9. BOSTON EUC REPAIRS
- 10. BOSTON EUC REPAIRS

MEETINGS

P. John Delivery Time:  
Contract: 1970  
EUC: 1970

- 4. UH 15 MEETINGS
- BUYER EUROPE
- SELLER S. AMERICA

- 5. NATO TRADE MEETINGS
- JOHN
- MICHAEL LONDON

- 6. M16 CONTRACT FUNDING

- 7. SOUTH AMERICAN CONTRACT AND FUNDING

- 8. UHIS CONTRACT
- SELLER MEETINGS
- BUYER MEETINGS

- 9. KLAUS F. SCHOUTEN CONTRACTS:
- SULPHUR
- UREA
- HOSPITAL EGPT
- REFINERY

- 10. KLAUS MEETINGS
- P. SCHOUTEN AGREEMENTS
- JOHN FRANKS
- P. ZIEGLER MEETING

- 11. P. FRANKS MEETING W. KLAUS



U.S. DEPT. OF JUSTICE  
FBI  
JAN 10 1968

34610101

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5. Bob in Elmer's train spec.  
1. Tailed w/ Dickcissels in cages. Familiar w/ typical procedure. Will deposit funds next week and send proceeds.  
7. \$6.50. John must hold cages cost at 2.2 to 2.50.  
2. John says before delivering pictures he will require (a) In settlement dropped (b) Official authorization for purchase accept. pictures.

2. 7 to 86 Answer Day note  
 Per. Tray - probably - chest w. 10 inch board  
 evidence

64648 Ianka one styler 20mm burr for social digging  
47 105 Passillase styler gang one of burr.

#3 MAN MOSSAD AND FRIENDS ARE IN MEXICO

APR 6 86

1. Boys about from 5 years old to 6 1/2 or 7 years old  
 16th — about only 6 or 7 years old or 8 years old or 9 years old

2. John has been engaged to marry  
Susan, sister of the  
John who was engaged to Susan  
Doe.





12/13/84

Met w/ Mr. Kaderbek and Mr. Bick

They prefer that I work through Mr. Masnard as direct contact would not be convenient. Masnard can supply general catalog and give price information. Prices will vary depending upon country purchasing and quantity.

They can arrange the necessary visa if I wish to come to Prague to hold the discussions there. Alternatively, they are willing to meet anywhere in W. Europe.

They can supply the full range of Carl equipment from infantry to aircraft. Would prefer to start with smaller equipment such as rifles, ammunition etc for the first few transactions in order to build a good working relationship before moving on to a/c. They do specialize in the buying and selling of a/c and a/c related items.

Payment programs should be through hard currency 4/c from prime West European Bank. Follow up w/ Masnard.

There is no mystery. What was done, remains.  
invited in friends. It spent on work in 1959 again  
seen them. Any opening contract would be forced.  
ships raised several. Always policies for future  
not = to. protected for U.S.

Stay away from the situation. The IONA if  
not but don't forget who outthrew the man. Or  
again a new possibility if we do not proceed as  
it

Hygen has suffered not my problem. They will not  
both

ANTI-TRUST AFFIDAVIT

STATE OF ARIZONA

COUNTY OF MARICOPA

Before me, the undersigned authority, on this day personally appeared Robert D. Dunham,

President, Wells Fargo Credit Corp. who being by me duly sworn, deposes and says:

That the WELLS FARGO CREDIT CORPORATION is not a trust or organization in restraint of trade, in violation of the laws of Texas; that it has not, within twelve months next preceding the date of this affidavit, entered into any combination, contract, obligation or agreement to create nor which may tend to create or to carry out any restriction in trade or commerce or aids to commerce, nor to fix, maintain, increase or reduce the price of any merchandise, produce or commodity, or any article of commerce; nor to prevent or lessen competition in the manufacture, producing, transportation, sale or purchase of any merchandise, produce or commodity, or any article of commerce, or in the preparation thereof for market; nor to fix or maintain any standard or figure whereby the price of same is or has been in any manner affected, controlled or established. That it has not, during said time, entered into, executed or carried out any contract, obligation or agreement with any person, corporation or association of persons not to sell or dispose of any commodity or articles of commerce below a common standard or figure, or to keep the price thereof at a fixed or graded figure, or to preclude a fair and unrestricted competition in the sale of any commodity or articles of commerce, or to regulate, fix or limit the output thereof, or to abstain from engaging in or continuing business or from the purchase or sale of any commodity or article of commerce partially or entirely within the State of Texas or any portion thereof.

Affiant further says that the above named corporation has not within twelve months next preceding the date of this affidavit, either directly or through the instrumentality of trustees or otherwise, acquired the shares or certificates of stocks or bonds, franchises or other rights or the physical properties or any part thereof of any other corporation or corporations for the purpose of preventing or lessening or which tends to affect or lessen competition. That it has not within said time entered into any agreements or understanding to refuse to buy from or sell to any other person, corporation, firm or association of persons any commodities or articles of commerce, nor entered into any agreement to boycott or threaten to refuse to buy from or sell to any person, firm or corporation or association of persons for the buying from or selling to any other person, firm, corporation or association of persons.

Affiant further says that no officer of the above named corporation has, within his knowledge, during the said twelve months, made on behalf of it or for its benefits, any such contract or agreement as is specified in this affidavit.

Sworn to and subscribed before me, this the 19<sup>th</sup> day of February A. D., 19 81

(SEAL)

Notary Public in and for State of Arizona

County of Maricopa

NOTE—The above affidavit must be subscribed and sworn to by the president or vice-president or secretary or treasurer or two of the directors of the corporation applying for permit.

My Commission Expires May 19, 1984

10. The names and respective addresses of its officers are:

NAME	OFFICE	ADDRESS
SEE ATTACHED LIST		

11. The aggregate number of shares which it has authority to issue, itemized by classes, par value of shares, shares without par value, and series, if any, within a class, is:

NUMBER OF SHARES	CLASS	SERIES	PAR VALUE PER SHARE OR STATEMENT THAT SHARES ARE WITHOUT PAR VALUE
25,000	Common	---	No par value

12. The aggregate number of its issued shares, itemized by classes, par value of shares, shares without par value, and series, if any, within a class, is:

NUMBER OF SHARES	CLASS	SERIES	PAR VALUE PER SHARE OR STATEMENT THAT SHARES ARE WITHOUT PAR VALUE
9,000	Common	-----	No par value

13. The amount of its stated capital is \$ 900,000.  
(See Texas Business Corporation Act, Article 1.02A(11) for definition of stated capital).

14. Consideration of the value of at least One Thousand Dollars (\$1,000.00) has been paid for the issuance of its shares.

15. This Application is accompanied by a copy of its articles of incorporation and all amendments thereto, duly authenticated by the proper officer of the state or country under the laws of which it is incorporated.

WELLS FARGO CREDIT CORPORATION

By [Signature]  
and [Signature] Its President  
Its Assistant Secretary

STATE OF ARIZONA  
COUNTY OF MARICOPA

I, the undersigned, a notary public, do certify that on this 19<sup>th</sup> day of February, 1981, personally appeared before me R.D. Durham and K.W. Hulthol who being duly sworn, declared that he signed the foregoing document and that the statements therein contained are true.

[Signature]  
Notary Public

(Notarial Seal)

My Commission Expires May 19, 1984

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NOV 20 1986

PAT. S. CO.  
CLERK OF THE SUPERIOR COURT  
MASON COUNTY, WASH.

SUPERIOR COURT OF WASHINGTON FOR MASON COUNTY

IN RE THE MARRIAGE OF )

STEVEN W. PETERSON, )

Petitioner, ) NO. 85-3-00109-2

and )

ROBERTA L. PETERSON, )

Respondent. )

CERTIFIED STATEMENT OF  
T. A. BURNS, M.D.

CERTIFIED STATEMENT OF T.A. BURNS, M.D.

TONI A. SHELDON  
ATTORNEY AT LAW  
P. O. Box 727  
SHELTON, WASHINGTON 98584  
(206) 426-7425



2015

RECEIVED  
APR 13 1987

SUPERIOR COURT OF WASHINGTON FOR MASON COUNTY  
In re the marriage of )  
STEVEN W. PETERSON, )  
Petitioner, )  
and )  
ROBERTA L. PETERSON, )  
Respondent. )

NO: 85-3-00109-2

ORDER ON RESPONDENT'S MOTION  
TO SET ASIDE COURT'S ORDER  
RE: TEMPORARY CUSTODY

THIS MATTER, having come on regularly to be heard before the undersigned judge of the above entitled Court upon Respondent's motion to set aside the court's order re temporary custody on the grounds that respondent's attorney had not been given notice of its presentation, and the court being duly advised, now, therefore, it is hereby

ORDERED, ADJUDGED AND DECREED, that said order, entered

on Feb. 13, 1987, be and is hereby set aside.

DONE IN OPEN COURT this 13th day of April, 1987.

Presented by:

Allen Lane Barr  
Attorney for Respondent

James B. Dwyer  
Judge

copy received:

January 14, 1987

85-3-109-2

To Whom It May Concern:

Bobbie Peterson, who has been under my care for her pregnancy, is unable at this time to deal with the stress of a court appearance.

There are complications in this pregnancy: history of phlebitis, potential premature delivery, and premature contractions.

The emotional and physical strain of a court appearance will be detrimental to her health and the health of her baby.

Until such time as she has fully recovered from the delivery of this baby, court appearance is contraindicated.

I certify under penalty of perjury under the laws of the State of Washington that the foregoing statement is true and correct to the best of my knowledge.

T. A. Burns, M.D.  
T. A. BURNS, M.D.

THEODORE A. BURNS, M.D., .COG, FAC  
OBSTETRICS AND GYNECOLOGY  
2625 WHEATON WAY, SUITE B  
BREMERTON, WASHINGTON 98310  
Office Phone 479 - 1811 - Home Phone 692 - 7636

PATIENT INSTRUCTIONS

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NOVEMBER 19, 1986

To Whom It May Concern;

Bobbie Peterson, who is under my care  
for her pregnancy, can not deal with the

stress of a court appearance at this time.

I certify under penalty of perjury under  
the laws of the State of Washington that  
the foregoing statement is true and  
correct to the best of my knowledge.

11-19-86

*T.A. Burns, M.D.*

T.A. Burns, M.D.

FAX COPY

Please deliver to JANE PITTMAY

From CHARLES R. "BOB" LEE

Number pages including cover page FIVE (5)

If all pages are not received please call 509-928-2763

Message As per our telephone conversation

Bob Lee

Bob Williams (Merritt Pittaway's  
Majority bank brother)  
Montana State Legislature  
Bozeman, Montana

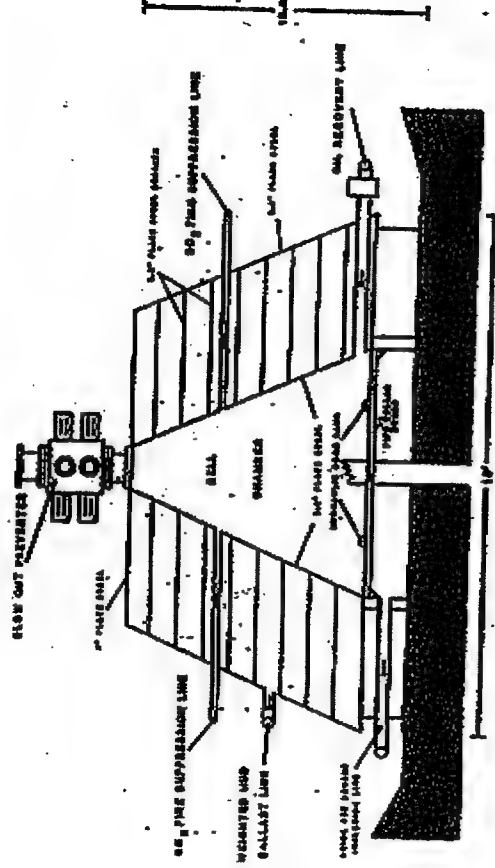
**FIRE BELL SYSTEMS, LTD.**

33 NORTH LA SALLE STREET • SUITE 2900 • CHICAGO, ILLINOIS 60602

Telephone: 312-372-1234 • 509-926-2763 • 406-549-4305 • 303-420-2709 • 713-932-9777

# FIRE BELL

# WELL FIRE EXTINGUISHING AND OIL RECOVERY SYSTEM



**The Fire Bell is designed to rapidly extinguish oil well fires by eliminating the flow of air to the oil well. The Fire Bell has been designed to quickly and safely put out any size oil well fire under extremely difficult conditions - without the use of water.**

After the oil well fire is extinguished, the design of the Fire Bell allows the fire fighting team several options. If desired, a flowing oil well can be put into production by connecting valves on the Fire Bell to existing oil pipe lines. As long as the oil well flows, the Fire Bell can act as a well head for an indefinite period of time.

If conditions warrant, weighted muds or fluids can be injected into the Fire Bell creating a "Bulldog" to neutralize the well pressures. After the well pressures are neutralized, the Fire Bell can be removed from the well head and reused. The surface equipment can then be replaced or repaired and the oil well put back into production.

A final option offered by the Fire Bell is that after the oil well fire is extinguished, the drill hole can be re-entered and repaired by a conventional drill rig at any time. This option allows a drill rig to set up over the Fire Bell and enter the bell through the Blow Out Preventer that is located on the top of the Fire Bell. This option allows fire fighters to quickly extinguish a great number of oil well fires leaving final well head repairs to well head repair specialists.

## **FIRE BELL OIL WELL FIRE EXTINGUISHING AND OIL RECOVERY SYSTEM**

The Fire Bell system is remarkably simple. The basic premise of the Fire Bell system is that if an oil well fire has no oxygen, there will be no fire. The Fire Bell has been designed to exploit this premise while providing maximum safety for fire fighters.

### **Fire Bell Design**

The Fire Bell is designed to contain any size oil well fire. The Fire Bell has been designed as an inverted cone which channels oil and gas escaping from the damaged well head upward and out of the Fire Bell.

After the Fire Bell has been placed over the well head, oil and gas is funneled out of the top of the Fire Bell through a conventional blow out preventer. When the Fire Bell is placed over the damaged well head, the blow out preventer is in the open position allowing the release of the oil and gas while keeping pressures in the bell at a minimum.

The sides of the Fire Bell are a double-walled chamber that can be filled with water or weighted muds. For larger oil well fires with high pressures, conventional weighted drilling muds can be used in the Fire Bell to hold the Bell in place. The fluid in the double-walled chamber can also act as a cooling agent while the Fire Bell is being positioned over the fire.

### **Oil and Gas Containment**

After the Fire Bell is centered over the projecting pipe, the bottom Fire Bell doors are hydraulically closed and sealed around the pipe. If extreme pressures are encountered, quick-setting cement can be injected into the 18 inch subfloor between the doors and the ground surface as a safety factor.

After the oil well fire is extinguished, the fire fighter has three options with the Fire Bell. 1) Put the well back into production by connecting the Fire Bell to a pipeline, 2) "Kill" the oil well by injecting weighted muds into the Fire Bell and subsequently into the oil well, or, 3) Leave the extinguished oil well to be repaired by a drill rig that can re-enter the Fire Bell through the blow out preventer located on the top of the Fire Bell.

## **FIRE BELL SYSTEM INSTALLATION**

### **Site Preparation**

Installation of the Fire Bell System requires minor site preparation around the damaged well head. Fences, pipes and other debris found around the well head for approximately 20 feet must be removed and the ground leveled to the extent possible. Site preparation provides a prepared surface on which to set the Fire Bell. If the well casing is less than 24 inches above the ground the area around the well head will have to be excavated with a drag line.



### **Fire Bell Preparation**

Depending on the size of the oil well fire and the pressures involved, a ballast and cooling fluid of water or weighted mud is selected and pumped into the Fire Bell's double walled chamber.

Hydraulic lines are connected to the Fire Bell. Hydraulic lines operate the blow out preventer located at the top of the Fire Bell, the Bell doors, and other valves that are connected to pipes entering the pressure chamber.

If required, the Fire Bell is constructed to allow CO<sub>2</sub> to be injected into the Fire Bell chamber to provide additional fire suppression capability. If needed, the CO<sub>2</sub> lines must be attached at the same time as the hydraulic lines.

### **Fire Bell Emplacement**

A large, truck-mounted crane will be used to place the Fire Bell over the oil well fire. Two dozers with winches will be used to assist the crane with the Fire Bell emplacement. The dozers winch lines will stabilize the Fire Bell over the oil well fire and assist in centering the Fire Bell over the well head. Preliminary contacts with contractors in Saudi Arabia have located several truck-mounted cranes that are capable of the lift capacities needed to place the Fire Bell over the well head.

### **FIRE BELL EXTINGUISHING SYSTEM**

Once the Fire Bell is in place, the hydraulic pipe collar doors will be closed. If necessary, quick setting cement can be injected into the Fire Bells sub-floor to prevent any oil and gas pressure loss from beneath the Fire Bell.

After the cement has had an adequate opportunity to set in the Fire Bells sub-floor, the blow out preventer on the top of the Fire Bell is hydraulically closed. Once the blow out preventer is closed, the oil well fire is extinguished and the well oil and gas is contained within the Fire Bell.

Once the Fire Bell has extinguished and contained the oil well fire, one of several options can be undertaken. Oil production from a flowing well can begin immediately by opening production valves in the Fire Bell, downhole well repairs can be affected by killing the well by injecting weighted muds into valves in the Fire Bell, or, the well can be repaired by a drill rig that re-enters the well through the blow out preventer located on the top of the Fire Bell.

## **FIRE BELL MATERIALS AND CONSTRUCTION**

The Fire Bell is constructed from readily available materials. All Fire Bell parts and materials are off-the-shelf items that do not require any specialized manufacturing. The Fire Bell has been designed to use existing parts so that production costs and construction lead time can be kept to a minimum.

The materials necessary to construct the Fire Bell include plate steel, standard valves and fittings, a blow out preventer, API piping and hydraulic rams. The equipment necessary to construct the Fire Bell include arc welders, cutting torches and small cranes.

The most efficient way to construct the Fire Bell is to assemble the majority of the Fire Bell in a major city that is near the well fire(s) where the Fire Bell is to be used. It is preferable that the city where the Fire Bell is to be constructed be a major port or have a large airport so that construction materials can be easily delivered. Final assembly of all aspects of the Fire Bell will occur at the well fire site.

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\*An Army tactical application

## E & M TRANSFER

There is a simple group of processes, transport processes, in which some physical quantity such as mass or energy or momentum or electrical charge is transported from one region of a system to another. Consider a metal for connecting two heat reservoirs at different temperatures. Heat flows through the bar from the high temperature reservoir to the low temperature reservoir; the heat flow is the manifestation of the transport of energy through the bar. The energy flow is easily measurable. Another example is the transport of electrical charge through a conductor by the application of an electrical potential difference between the ends of the conductor. Mass is transported in a flow of fluid through a pipe resulting from a pressure difference between the ends of the pipe. Diffusion is the mass transport which occurs in a mixture if a concentration gradient is present. The phenomenon of viscosity, the resistance to flow exhibited by fluids, results from the transport of momentum in a direction perpendicular to the direction of flow.

In all cases the flow, the amount of physical quantity transported in unit time through a unit of area perpendicular to the direction of flow, is proportional to the gradient of some other physical property such as temperature, pressure, or electrical potential. Choosing the z-axis as the direction of flow, the general law for transport is:

$$J_z = -B \partial y / \partial z \quad \text{eg 1}$$

$J_z$  = flow (amount of the quantity transported per  $\text{cm}^2$  per sec.

$-B$  = proportionality constant

$\partial y / \partial z$  = gradient of  $y$  in the direction of flow

$y$  = quantity i.e., temperature, electrical potential, pressure, etc.

Since flow occurs in a particular direction, it is a vector quantity; equation 1 describes the z-component of the vector.

From the general form of equation 1 we have the following examples in the z direction

$$\text{Heat flow (Fourier's law)} \quad J_z = K_T \frac{\partial T}{\partial z} \quad \text{Eq. 2}$$

$$\text{Electric current flow (Ohm's law)} \quad J_z = -K \frac{\partial V}{\partial z} \quad \text{Eq. 3}$$

$$\text{Fluid flow (Poiseuille's law)} \quad J_z = -C \frac{\partial P}{\partial z} \quad \text{Eq. 4}$$

$$\text{Diffusion (Ficks law)} \quad J_z = -D \frac{\partial C}{\partial z} \quad \text{Eq. 5}$$

$K_T$  = Coefficient of thermal conductivity

$K$  = Coefficient of electrical conductivity

$C$  = Coefficient of friction related to viscosity

$D$  = Coefficient of diffusion

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R 8d

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